

In the Claims:

1. (Currently Amended) A system of dynamic QoS negotiation in a Next Generation Network (NGN), comprising a Resource and Admission Control Subsystem (RACS), a Transport Functional (TF) entity, a Service Control Functional (SCF) entity and a Network Attachment Subsystem (NASS), wherein:

the RACS has interfaces with the TF entity, the SCF entity and the NASS;

the SCF entity, configured to receive a service request from a user terminal, when the service request does not carry QoS requirement parameters of a service of the user terminal, determining, by the SCF entity, the type of the service in accordance with the service request, and determining the QoS requirement parameters required for the service in accordance with the service type; when the service request carries the QoS requirement parameters of the service, obtaining, by the SCF entity, the QoS requirement parameters of the service by parsing the service request;

the RACS ~~a Resource and Admission Control Subsystem (RACS), configured to adapted to~~ process a resource reservation request required for the service of the user terminal ~~a media flow of a service transferred in the NGN~~ and obtain QoS requirement parameters required by the service from the resource reservation request, perform authentication and determine admission control decision parameters based on the QoS requirement parameters in accordance with operation policy rules, ~~and a user profile stored in the NASS configured by an operator,~~ and availability of transport network resources, and send the admission control decision parameters to a concerned TF ~~Transport Functional (TF)~~ entity for execution;

the TF ~~Transport Functional~~ entity, configured to ~~adapted to~~ ensure QoS of the

service of the user terminal the media flow of the service transferred in the NGN

according to the admission control decision parameters;

wherein the RACS has interfaces with the TF entity, a Service Control Functional (SCF) entity, a Network Attachment Subsystem (NASS) and a Network Management System (NMS); and

wherein the RACS obtains the QoS requirement parameters from the TF entity, the SCF entity, the NASS or the NMS

wherein when the user terminal is a mobile terminal, the SCF entity sends a resource authentication request containing the QoS requirement parameters of the service to the RACS via a corresponding interface with the RACS, the RACS notifies the user terminal via the SCF entity after authenticating successfully, and the user terminal initiates a resource reservation request to the TF entity of the network via a path-coupling QoS signaling carrying the QoS requirement parameters of the service; handling by the TF entity at a network boundary the QoS signaling and sending a resource reservation request containing the QoS requirement parameters of the service to the RACS via a corresponding interface with the RACS; and

wherein when a token mechanism is used, the RACS returns an admission token to the user terminal via the SCF entity after authenticating successfully and checks whether a resource reservation request has passed the authentication and searching for relevant information of the service in accordance with the admission token, and wherein the admission token is carried in a path-coupling QoS signaling and transferring the admission token to the RACS via the resource reservation request.

2. (Currently Amended) The system as in claim 1, wherein ~~the system further comprises:~~

~~the SCF service control functional (SCF) entity[[.]] is further configured to adapted to obtain the QoS requirement parameters required for the service requested by a user terminal by parsing service signaling or determine the QoS requirement parameters according to service policies, and send the QoS requirement parameters to said RACS.~~

3. (Currently Amended) The system as in claim 2, wherein the system further comprises:

~~the NASS Network Attachment Subsystem (NASS), configured to adapted to~~ manage and configure a user access network, communicate with said RACS and said SCF entity, and provide said RACS and said SCF entity with user profile information associated with the service.

4. (Canceled)

5. (Currently Amended) A method of dynamic QoS negotiation based on a system of dynamic QoS negotiation in a Next Generation Network (NGN), the system comprising a Resource and Admission Control Subsystem (RACS), a Transport Functional (TF) entity, a Service Control Functional (SCF) entity and a Network Attachment Subsystem (NASS), wherein the RACS has interfaces with the TF entity, the SCF entity and the NASS, the method comprising:

A. receiving, by the SCF entity, a service request from a user terminal, when the service request does not carry QoS requirement parameters of a service of the user

terminal, determining the type of the service in accordance with the service request, and determining the QoS requirement parameters required for the service in accordance with the service type; when the service request carries the QoS requirement parameters of the service, obtaining the QoS requirement parameters of the service by parsing the service request;

[[A]] B. processing, by the RACS, a resource reservation request required for the service of the user terminal and obtaining, by the RACS, a Resource and Admission Control Subsystem (RACS) in the NGN, QoS requirement parameters required by the
[[a]] service from the resource reservation request;

[[B]] C. performing, by said RACS, authentication-admission control in accordance with the QoS requirement parameters; and determining admission control decision parameters based on the QoS requirement parameters in accordance with operation policy rules, a user profile stored in the NASS and availability of transport network resources;

[[C]] D. sending, by said RACS, the admission control decision parameters to the TF a transport functional (TF) entity at a network boundary, and executing, by said transport functional entity at the network boundary, the admission control decision parameters to process and transfer the service of the user terminal a media flow of the service accordingly; and

D. obtaining, by said RACS, the QoS requirement parameters of the service through the TF entity, a Service Control Functional (SCF) entity, a Network Attachment Subsystem (NASS) or a Network Management System (NMS); wherein the RACS has interfaces with the TF entity, the SCF entity, the NASS and the NMS

wherein when the user terminal is a mobile terminal, the SCF entity sends a resource authentication request containing the QoS requirement parameters of the service to the RACS via a corresponding interface with the RACS, the RACS notifies the user terminal via the SCF entity after authenticating successfully, and the user terminal initiates a resource reservation request to the TF entity of the network via a path-coupling QoS signaling carrying the QoS requirement parameters of the service; handling by the TF entity at a network boundary the QoS signaling and sending a resource reservation request containing the QoS requirement parameters of the service to the RACS via a corresponding interface with the RACS; and

wherein when a token mechanism is used, the RACS returns an admission token to the user terminal via the SCF entity after authenticating successfully and checks whether a resource reservation request has passed the authentication and searching for relevant information of the service in accordance with the admission token, and wherein the admission token is carried in a path-coupling QoS signaling and transferring the admission token to the RACS via the resource reservation request.

6. (Canceled)
7. (Original) The method as in claim 5, wherein
when the service comprises a plurality of media flows, it is needed to determine the QoS requirement parameters for each of the media flows respectively.
8. (Canceled)

9. (Currently Amended) The method as in claim 5 ~~claim 8~~, wherein when the user terminal is a fixed terminal, and wherein the method ~~the step E~~ further comprises:

the SCF entity sending a resource reservation request containing the QoS requirement parameters of the service to the RACS via a corresponding interface with the RACS.

10. (Canceled)

11. (Canceled)

12. (Currently Amended) The method as in claim 5, wherein said determining by the RACS the admission control decision parameters comprises:

obtaining, by the RACS, user profile information of the service and policy rules information configured by an operator, making admission control decisions for the QoS requirement parameters of the service based on the user profile information and the policy rules information, deciding whether to permit the media flow of the service to enter into a ~~the~~ transport network and to be treated with the requested QoS, and determining the admission control decision parameters.

13. (Currently Amended) The method as in claim 12 ~~claim 5~~, wherein determining by said RACS the admission control decision parameters further comprises:

obtaining, by the RACS, current status information of transport resources in the network, making admission control decisions for the QoS requirement parameters of the service based on above information, checking whether there are enough transport

resources available in the network to meet the QoS requirement parameters of the service, and determining the admission control decision parameters.

14. (Previously Presented) The method as in claim 5, wherein the admission control decision parameters comprise:

gate control, bandwidth allocation, Differentiated Service Code Point mark, and outgoing aggregation path control information.

15. (Original) The method as in claim 5, wherein the QoS requirement parameters comprise:

bandwidth required for transporting the media flow of the service, as well as allowable delay, jitter, and packet loss rate.

16. (Previously Presented) The method as in claim 5, further comprising:

directly initiating, by a user terminal, a resource reservation request to the TF entity for the media flow of a developed service via a dedicated path-coupling QoS signaling;

upon receiving the resource reservation request from the user terminal, sending, by the TF entity at the network boundary, a resource reservation request carrying the QoS requirement parameters of the media flow of the user service to the RACS, and executing step C.

17. (Previously Presented) The method in claim 5, further comprising:

configuring, by the Network Management System (NMS) or the Network Attachment Subsystem (NASS), gate control, bandwidth allocation, Differentiated

Service Code Point (DSCP) marking control, and outgoing aggregation path control parameters onto the TF entity at the network boundary via the RACS.

18. (New) The system as in claim 1, wherein the RACS obtains the QoS requirement parameters from the TF entity, the SCF entity or the NASS.